Sl. No.	Description	Unit	No.	L	B	D	Qty		
	Measurements recorded on 17/07/2017								
10	**Design mix M25 sub structure** with OPC cement @340kgs, with 20mm and down size graded granite metal coarse aggregates @0.7Cum and fine aggregates @0.47Cum with superplastisiser @3lts confirming to IS9103-1999 Reaffirmed-2008 upto 5 mtrs. Upto 5 Mtrs height.								
	Lakeview layout	Cum							
	Ch 0 to 15		2	15.00	(0.25+0.3)/2	2.30	18.98		
	15 to 30		2	15.00	(0.25+0.3)/2	2.35	19.39		
	30 to 45		2	15.00	(0.25+0.3)/2	2.40	19.80		
	45 to 60		2	15.00	(0.25+0.3)/2	2.40	19.80		
	60 to 75		2	15.00	(0.25+0.3)/2	2.40	19.80		
	75 to 90		2	15.00	(0.25+0.3)/2	2.40	19.80		
	90 to 102		2	12.00	(0.25+0.3)/2	2.40	15.84		
10						**Total**	**133.41**		
12	**Design mix M30 sub structure** with OPC cement @360kgs, with 20mm and down size graded granite metal coarse aggregates @0.69Cum and fine aggregates @0.46Cum with superplastisiser @3lts confirming to IS9103-1999 Reaffirmed-2008 upto 5 mtrs. Upto 5 Mtrs height								
	CD at Lakeview layout	Cum	2	9.40	0.35	1.60	10.53		
12						**Total**	**10.53**		
6	Earth work in **excavation for foundation** of structures such as culverts, bridges etc., as per drawing and technical specifications,including setting out, construction of shoring and bracing, removal of stumps and other deleterious matter, dressing of sides and bottom and backfilling with approved material complete as per specifications **in Ordinary soil - B. Mechanical Means** (i) Depth upto 3m MORTH Specification No. 304								
	D/s of Lakeview layout CD	Cum							
	Ch 0 to 15		1	15.00	(3+3.2)/2	1.22	56.73		
	15 to 30		1	15.00	3.10	1.20	55.80		
	30 to 45		1	15.00	3.10	1.20	55.80		
	45 to 60		1	15.00	3.00	1.20	54.00		
	60 to 75		1	15.00	3.10	1.20	55.80		
	75 to 90		1	15.00	3.50	1.20	63.00		
	90 to 103		1	13.00	3.20	1.30	54.08		
6						**Total**	**395.21**		

17/7/17

B.V.H. Consulting Engineers Bangalore

Scanned by CamScanner

Sl. No.	Description	Unit	No.	L	B	D	Qty		
	Measurements recorded on 21/07/2017								
7	Providing and **filling in foundation with Granite/trap broken metal** 100mm and down size, with approved sand including hand packing, ramming,watering, including cost of all materials and labour with all lead and lift.complete as per specifications								
					B	Avg B			
	D/s of Lakeview layout CD								
	Lakeview layout	Cum			3.40				
	Ch 0 to 15	1		15.00	3.10	3.25	0.30	14.63	
	15 to 30	1		15.00	3.10	3.10	0.30	13.95	
	30 to 45	1		15.00	2.85	2.98	0.30	13.39	
	45 to 60	1		15.00	2.90	2.88	0.30	12.94	
	60 to 75	1		15.00	3.05	2.98	0.30	13.39	
	75 to 90	1		15.00	3.45	3.25	0.30	14.63	
	90 to 102.1	1		12.10	3.05	3.25	0.30	11.80	
7							**Total**	**94.73**	
15	Supplying,fitting and placing **TMT bar reinforcement in super-structure** complete as per drawing and technical specifications complete as per specifications. TMT Bars Fe 500								
	CD at Lakeview layout							1.57685	
15		MT				**Total**		**1.57685**	

AE

ಕಾರ್ಯಪಾಲಕ ಅಭಿಯಂತರರು
ಬೃಹತ್ ಬೆಂಗಳೂರು ಮಹಾನಗರ ಪಾಲಿಕೆ

B.V.H. Consulting Engineers Bangalore

Scanned by CamScanner

Measurements recorded on 21/07/2017

Culvert- Slab

Sl No	Bar no	Dia	Side	No of Bars	Cut Length of Bar	Total Length of Bars	Unit Weight	Total Weight	Remarks.
Slab							1.58	831.71	
1	10	16	1	94	5.60	526.40	1.59	836.98	Slab Bar
2	12	10	1	21	9.35	196.35	0.62	121.74	Distribution
3	11	16	1	52	5.60	291.20	1.59	463.01	Slab Bar
4	13	10	1	21	9.35	196.35	0.62	121.74	Distribution
5		16	1	14	1.50	21.00	1.59	33.39	Chair.
Approach Slab-LHS							1.58	33.18	
1		10	2	30	4.20	252.00	0.62	156.24	Slab Bar
2		10	2	20	5.90	236.00	0.62	146.32	Distribution
Approach Slab-RHS									
1		10	2	25	5.50	275.00	0.62	170.50	Slab Bar
2		10	2	26	5.00	260.00	0.62	161.20	Distribution
							Total	1576.85	Kg
							Total	1.58	MT

1.571

AE

ಸಹಾಯಕ ಕಾರ್ಯಪಾಲಕ ಅಭಿಯಂತರರು
ಲೋಕೋಪಯೋಗಿ ಇಲಾಖೆ
ಬೆಂಗಳೂರು ಪೂರ್ವ ವಿಭಾಗ

B.V.H. Consulting Engineers Bangalore

Scanned by CamScanner

Sl. No.	Description	Unit	No.	L	B	D	Qty		
	Measurements recorded on 22/07/2017								
8	**Plain Cement Concrete M10** with OPC cement @ 220 kgs, with crushed 40mm and down size graded metal coarse aggregates @0.84 Cum and fine aggregates @ 0.56Cum, in foundation mechanically mixed placed in foundation and compacted by vibration including curing for 14 days complete as per specifications MORTH Specification No.2100								
					B	Avg B			
	D/s of Lakeview layout CD								
	Lakeview layout	Cum			3.40				
	Ch 0 to 15	1		15.00	3.10	3.25	0.15	7.31	
	15 to 30	1		15.00	3.10	3.10	0.15	6.98	
	30 to 45	1		15.00	2.85	2.98	0.15	6.69	
	45 to 60	1		15.00	2.90	2.88	0.15	6.47	
	60 to 75	1		15.00	3.05	2.98	0.15	6.69	
	75 to 90	1		15.00	3.45	3.25	0.15	7.31	
	90 to 102.1	1		12.10	3.05	3.25	0.15	5.90	
8							Total	**47.35**	
4	**Diversion of water course by providing coffer dams or bunds or islands** as may be necessary for piers and abutments foundations, bailing out or pumping water during excavation and until completion etc... complete beyond 1.50m depth upto & including 3m depth.								
	D/s of Aaimatha layout CD	Cum							
	Ch 0 to 15		1		15.00	(0.90+0.6)/2	0.60	**6.75**	
	15 to 30		1		15.00	(0.90+0.6)/2	0.60	**6.75**	
4						Total		**13.50**	
5	**Excavation in marshy soil** upto 3m depth for foundation of structures as per drawing and technical specifications, removing the excavated stuf to a lead of 15m, including dewatering, shoring, refilling trenches in 250mm layers, wherever necessary watering and ramming, including cost of all materials, labour complete as per specifications. V. **Marshy Soil - B Mechanical means**								
	D/s of CD at aaimatha								
	Ch 0 to 15		1		15.00	2.50	0.60	**22.50**	
	15 to 40		1		25.00	2.50	0.60	**37.50**	
5						Total		**60.00**	
6	Earth work in **excavation for foundation** of structures such as culverts, bridges etc., as per drawing and technical specifications,including setting out, construction of shoring and bracing, removal of stumps and other deleterious matter, dressing of sides and bottom and backfilling with approved material complete as per specifications **in Ordinary soil - B. Mechanical Means** (i) Depth upto 3m MORTH Specification No. 304								
	CD at Aaimatha layout		1		8.65	(2.5+3.5)/2	1.50	38.93	
	D/s of CD								
	Ch 0 to 15		1		15.00	(3.4+3)/2	1.30	62.40	
	15 to 40		1		25.00	(3+2.95)/2	1.25	92.97	
	Deduction for manholes		-9		3.142/4	1.2*1.2	1.20	-12.22	
6						Total		**182.08**	

AE

F/C

Scanned by CamScanner

Sl. No.	Description	Unit	No.	L	B	D	Qty		
	Measurements recorded on 25/07/2017								
7	Providing and **filling in foundation with Granite/trap broken metal** 100mm and down size, with approved sand including hand packing, ramming,watering, including cost of all materials and labour with all lead and lift.complete as per specifications								
					B	Avg B			
	D/s of Aaimatha layout CD								
		Cum			3.75				
	Ch 0 to 5	1		5.00	3.00	3.68	0.30	5.51	
	5 to 10	1		5.00	3.05	3.40	0.30	5.10	
	10 to 15	1		5.00	2.80	2.90	0.30	4.35	
	15 to 29.7	1		14.70	3.05	3.05	0.30	13.45	
	Deduction for manholes			-9	3.142/4	1.2*1.2	0.30	-3.05	
	CD at Aaimatha layout			1	8.65	3.80	0.30	9.86	
7						**Total**		**35.22**	
8	**Plain Cement Concrete M10** with OPC cement @ 220 kgs, with crushed 40mm and down size graded metal coarse aggregates @0.84 Cum and fine aggregates @ 0.56Cum, in foundation mechanically mixed placed in foundation and compacted by vibration including curing for 14 days complete as per specifications MORTH Specification No.2100								
					B	Avg B			
	D/s of Aaimatha layout CD								
	Lakeview layout	Cum			3.75				
	Ch 0 to 5	1		5.00	3.00	3.68	0.15	2.76	
	5 to 10	1		5.00	3.05	3.40	0.15	2.55	
	10 to 15	1		5.00	3.10	3.05	0.15	2.29	
	15 to 29.7	1		14.70	2.75	2.90	0.15	6.39	
	Deduction for manholes			-9	3.142/4	1.2*1.2	0.15	-1.53	
	CD at Aaimatha layout			1	8.65	3.80	0.15	4.93	
8						**Total**		**17.39**	
14	Supplying,fitting and placing **TMT bar reinforcement in sub-structure** complete as per drawing and technical specifications complete as per specifications. TMT Bars Fe 500								
	D/S of CD Lakeview layout							20.9164	20.84
14							**Total**	**20.9164**	

AE

Scanned by CamScanner

Measurements recorded on 25/07/2017

D/s of CD Lakeview layout — CH - 0M to 30m

Sl No	Bar no	Dia	Side	No of Bars	Cut Length of Bar	Total Length of Bars	Unit Weight	Total Weight	Remarks.
RAFT							1.58	1142.34	
1	1	16	1	241	3.00	723.00	1.59	1149.57	Raft Bar
2	4	10	1	13	30.00	390.00	0.62	241.80	Distribution
3	2	12	1	201	2.80	562.80	0.89	500.89	Raft Bar
4	4	10	1	12	30.00	360.00	0.62	223.20	Distribution
5		12	1	46	1.50	69.00	0.89	61.41	Chair
wall									
6	3	12	2	151	2.60	785.20	0.89	698.83	Inner Wall rod
7	5	10	2	12	30.00	720.00	0.62	446.40	Distribution
8	1	16	2	241	2.70	1301.40	1.59 1.58	2069.23 2056.71	Outer Wall rod
9	5	10	2	12	30.00	720.00	0.62	446.40	Distribution
10		10	2	26	1.00	52.00	0.62	32.24	U bar
							Total	5869.97	Kg 5849.78
							Total	5.87	MT

5.85

D/s of CD Lakeview layout — CH - 30M to 60m

Sl No	Bar no	Dia	Side	No of Bars	Cut Length of Bar	Total Length of Bars	Unit Weight	Total Weight	Remarks.
RAFT							1.58	1028.10	
1	1	16	1	241	2.70	650.70	1.59	1034.61	Raft Bar
2	4	10	1	12	30.00	360.00	0.62	223.20	Distribution
3	2	12	1	201	2.50	502.50	0.89	447.23	Raft Bar
4	4	10	1	11	30.00	330.00	0.62	204.60	Distribution
5		12	1	43	1.50	64.50	0.89	57.41	Chair
wall									
6	3	12	2	151	2.50	755.00	0.89	671.95	Inner Wall rod
7	5	10	2	11	30.00	660.00	0.62	409.20	Distribution
8	1	16	2	241	2.60	1253.20	1.59 1.58	1992.59 1980.03	Outer Wall rod
9	5	10	2	11	30.00	660.00	0.62	409.20	Distribution
10		10	2	28	1.00	56.00	0.62	34.72	U bar
							Total	5484.70	Kg 5465.66
							Total	5.48	MT

5.46

D/s of CD Lakeview layout — CH - 60M to 90m

Sl No	Bar no	Dia	Side	No of Bars	Cut Length of Bar	Total Length of Bars	Unit Weight	Total Weight	Remarks.
RAFT							1.58	1028.10	
1	1	16	1	241	2.70	650.70	1.59	1034.61	Raft Bar
2	4	10	1	12	30.00	360.00	0.62	223.20	Distribution
3	2	12	1	201	2.50	502.50	0.89	447.23	Raft Bar
4	4	10	1	11	30.00	330.00	0.62	204.60	Distribution
5		12	1	45	1.50	67.50	0.89	60.08	Chair
wall									
6	3	12	2	151	2.50	755.00	0.89	671.95	Inner Wall rod
7	5	10	2	11	30.00	660.00	0.62	409.20	Distribution
8	1	16	2	241	2.60	1253.20	1.59 1.58	1992.59 1980.03	Outer Wall rod
9	5	10	2	11	30.00	660.00	0.62	409.20	Distribution
10		10	2	29	1.00	58.00	0.62	35.96	U bar
							Total	5488.61	Kg 5469.57
							Total	5.49	MT

5.47

AE

H. Consulting Engineers Bangalore

Scanned by CamScanner

D/s of CD Lakeview layout

CH - 90M to 102m

Sl No	Bar no	Dia	Side	No of Bars	Cut Length of Bar	Total Length of Bars	Unit Weight	Total Weight	Remarks.
RAFT									
1	1	16	1	177	2.80	495.60	1.59	788.00	Raft Bar
2	4	10	1	12	22.00	264.00	0.62	163.68	Distribution
3	2	12	1	148	2.60	384.80	0.89	342.47	Raft Bar
4	4	10	1	11	22.00	242.00	0.62	150.04	Distribution
5		12	1	33	1.50	49.50	0.89	44.06	Chair
wall									
6	3	12	2	111	2.50	555.00	0.89	493.95	Inner Wall rod
7	5	10	2	11	22.00	484.00	0.62	300.08	Distribution
8	1	16	2	177	2.60	920.40	1.59	1463.44	Outer Wall rod
9	5	10	2	11	22.00	484.00	0.62	300.08	Distribution
10		10	2	22	1.00	44.00	0.62	27.28	U bar
							Total	4073.08	Kg
							Total	4.07	MT

ಸಹಾಯಕ ಕಾರ್ಯಪಾಲಕ ಅಭಿಯಂತರರು
ಬೃಹತ್ ಬೆಂಗಳೂರು ಮಹಾನಗರ ಪಾಲಿಕೆ

B.V.H. Consulting Engineers
Bangalore

Scanned by CamScanner

Description	Unit	No.	L	B	D	Qty		
Measurements recorded on 27/07/2017								
Plain/reinforcement Cement Concrete design mix M25 with OPC cement @340 kgs, with 20mm and down size graded granite metal coarse aggregates @ 0.70Cum and fine aggregates @0.47Cum with superplastisiser @ 3lts confirming to IS9103-1999 Reaffirmed-2008, **open foundation** complete as per Drawing and Technical Specification with Batching plant, transit mixer and concrete pump. MORTH Specification No. 1500, 1700 & 2100.								
				B	Avg B			
D/s of Lakeview layout CD								
Lakeview layout	Cum			3.30				
Ch 0 to 15	1		15.00	3.00	3.15	0.30	14.18	
15 to 30	1		15.00	3.00	3.00	0.30	13.50	
30 to 45	1		15.00	2.75	2.88	0.30	12.94	
45 to 60	1		15.00	2.80	2.78	0.30	12.49	
60 to 75	1		15.00	2.95	2.88	0.30	12.94	
75 to 90	1		15.00	3.35	3.15	0.30	14.18	
90 to 102.1	1		12.10	2.95	3.15	0.30	11.43	
						Total	91.66	
Supplying,fitting and placing **TMT bar reinforcement in sub-structure** complete as per drawing and technical specifications complete as per specifications. TMT Bars Fe 500								
CD at Aaimatha layout							2.6470	2.64
D/s of Aaimatha layout CD							5.7193	5.69
	MT				Total		8.3663	
							8.35	

JStech
AE

JStech

Bangalore

Scanned by CamScanner

Measurements recorded on 27/07/2017

D/s of CD Aaimatha layout — CH - 0m to 15m

Sl No	Bar no	Dia	Side	No of Bars	Cut Length of Bar	Total Length of Bars	Unit Weight	Total Weight	Remarks.
RAFT							1.58	592.65	
1	1	16	1	121	3.10	375.10	1.59	596.41	Raft Bar
2	4	10	1	14	15.00	210.00	0.62	130.20	Distribution
3	2	12	1	101	2.90	292.90	0.89	260.68	Raft Bar
4	4	10	1	13	15.00	195.00	0.62	120.90	Distribution
5		12	1	23	1.50	34.50	0.89	30.71	Chair
wall									
6	3	12	2	76	2.60	395.20	0.89	351.73	Inner Wall rod
7	5	10	2	12	15.00	360.00	0.62	223.20	Distribution
8	1	16	2	121	2.70	653.40	1.59 1.58	1038.91 1032.37	Outer Wall rod
9	5	10	2	12	15.00	360.00	0.62	223.20	Distribution
10		10	2	15	1.00	30.00	0.62	18.60	U bar
							Total	2994.53	Kg 2984.24
							Total	2.99	MT
								2.98	

D/s of CD Aaimatha layout — CH - 15m to 29m

Sl No	Bar no	Dia	Side	No of Bars	Cut Length of Bar	Total Length of Bars	Unit Weight	Total Weight	Remarks.
RAFT							1.58	517.76	
1	1	16	1	113	2.90	327.70	1.59	521.04	Raft Bar
2	4	10	1	13	14.00	182.00	0.62	112.84	Distribution
3	2	12	1	94	2.70	253.80	0.89	225.88	Raft Bar
4	4	10	1	12	14.00	168.00	0.62	104.16	Distribution
5		12	1	21	1.50	31.50	0.89	28.04	Chair
wall									
6	3	12	2	71	2.60	369.20	0.89	328.59	Inner Wall rod
7	5	10	2	12	14.00	336.00	0.62	208.32	Distribution
8	1	16	2	113	2.70	610.20	1.59 1.58	970.22 961.11	Outer Wall rod
9	5	10	2	12	14.00	336.00	0.62	208.32	Distribution
10		10	2	14	1.00	28.00	0.62	17.36	U bar
							Total	2724.77	Kg 2715.38
							Total	2.72	MT
								2.71	

Culvert at Aaimatha layout

Sl No	Bar no	Dia	Side	No of Bars	Cut Length of Bar	Total Length of Bars	Unit Weight	Total Weight	Remarks.
RAFT							1.58	432.28	
1	1	16	1	48	5.70	273.60	1.59	435.02	Raft Bar
2	3	10	1	21	8.55	179.55	0.62	111.32	Distribution
3	2	16	1	86	4.10	352.60	1.59 1.58	560.63 557.19	Raft Bar
4	4	10	1	21	8.55	179.55	0.62	111.32	Distribution
5	5	10	2	49	2.00	196.00	0.62	121.52	Haunch
6		12	1	6	1.50	9.00	0.89	8.01	Chair
wall									
7	6	12	2	48	2.00	192.00	0.89	170.88	Inner Wall rod
8	9	10	2	7	8.55	119.70	0.62	74.21	Distribution
9	7	16	2	48	4.60	441.60	1.59 1.58	702.14 697.73	Outer Wall rod
10	8	10	2	7	8.55	119.70	0.62	74.21	Distribution
11	14	10	4	43	1.20	206.40	0.62	127.97	Haunch
12		10	2	43	2.60	223.60	0.62	138.63	Bracket Bar
13		10	2	9	1.00	18.00	0.62	11.16	U bar
							Total	2647.04	Kg 2636.33
							Total	2.65	MT
								2.64	

Scanned by CamScanner

Sl.	Description	Unit	No.	L	B	D	Qty		
	Measurements recorded on 30/07/2017								
10	**Design mix M25 sub structure** with OPC cement @340kgs, with 20mm and down size graded granite metal coarse aggregates @0.7Cum and fine aggregates @0.47Cum with superplastisiser @3lts confirming to IS9103-1999 Reaffirmed-2008 upto 5 mtrs. Upto 5 Mtrs height.								
	D/s of Lakeview layout CD								
	Lakeview layout	Cum							
	LHS								
	Ch 0 to 15		1	15.00	(0.25+0.3)/2	2.30	9.49		
	15 to 30		1	15.00	(0.25+0.3)/2	(2+2.3)/2	8.87		
	30 to 45		1	15.00	(0.25+0.3)/2	2.20	9.08		
	45 to 60		1	15.00	(0.25+0.3)/2	2.14	8.83		
	60 to 75		1	15.00	(0.25+0.3)/2	2.00	8.25		
	75 to 90		1	15.00	(0.25+0.3)/2	2.10	8.66		
	90 to 102.1		1	12.10	(0.25+0.3)/2	2.10	6.99		
	RHS								
	Ch 0 to 15		1	15.00	(0.25+0.3)/2	2.30	9.49		
	15 to 30		1	15.00	(0.25+0.3)/2	(2+2.3)/2	8.87		
	30 to 45		1	15.00	(0.25+0.3)/2	2.20	9.08		
	45 to 60		1	15.00	(0.25+0.3)/2	2.14	8.83		
	60 to 75		1	15.00	(0.25+0.3)/2	2.00	8.25		
	75 to 90		1	15.00	(0.25+0.3)/2	2.10	8.66		
	90 to 104.1		1	14.10	(0.25+0.3)/2	2.10	8.14		
	Deduct for opening		-2	1.25	0.30	0.80	-0.60		
10					**Total**		**120.89**		

Sl.	Description	Unit	No.	L	B	Avg B	D	Qty		
9	**Plain/reinforcement Cement Concrete design mix M25** with OPC cement @340 kgs, with 20mm and down size graded granite metal coarse aggregates @ 0.70Cum and fine aggregates @0.47Cum with superplastisiser @ 3lts confirming to IS9103-1999 Reaffirmed-2008, **open foundation** complete as per Drawing and Technical Specification with Batching plant, transit mixer and concrete pump. MORTH Specification No. 1500, 1700 & 2100.									
	D/s of Aaimatha layout CD									
	Lakeview layout	Cum			3.65					
	Ch 0 to 5	1	5.00	2.90	3.58	0.30	5.36			
	5 to 10	1	5.00	2.95	3.30	0.30	4.95			
	10 to 15	1	5.00	3.00	2.95	0.30	4.43			
	15 to 29.7	1	14.70	2.95	2.95	0.30	13.01			
	Deduction for manholes		-9	3.142/4	1.2*1.2	0.30	-3.05			
9						**Total**	**24.70**			

AE

Scanned by CamScanner

Sl	Description	Unit	No.	L	B	D	Qty		
	Measurements recorded on 02/08/2017								
10	**Design mix M25 sub structure** with OPC cement @340kgs, with 20mm and down size graded granite metal coarse aggregates @0.7Cum and fine aggregates @0.47Cum with superplastisiser @3lts confirming to IS9103-1999 Reaffirmed-2008 upto 5 mtrs. Upto 5 Mtrs height.								
	D/s of Aaimatha layout CD								
	Lakeview layout	Cum							
	Ch 0 to 15		2	15.00	(0.25+0.3)/2	2.20	18.15		
	15 to 29.7		2	14.70	(0.25+0.3)/2	2.10	16.98		
	Deduct for opening		-1	0.60	0.25	0.82	-0.12		
			-1	0.70	0.25	0.60	-0.11		
10					**Total**		**34.90**		
11	**Plain / Reinforced cement concrete in Open foundation with OPC cement design mix M 30** @360kgs, with 20mm and down size graded granite metal coarse aggregates @0.69cum and fine aggregates @0.46cum, with superplastisiser @3lts confirming to IS9103-1999 Reaffirmed-2008, including cost of all material,HOM of machinery,labour curing etc., complete with all lead and lifts, as per drawing and technical specification with Batching Plant, Transit Mixer and Concrete Pump								
	CD at Aaimatha layout		1	8.65	3.80	0.35	11.50		
11							**11.50**		
	Measurements recorded on 03/08/2017								
12	**Design mix M30 sub structure** with OPC cement @360kgs, with 20mm and down size graded granite metal coarse aggregates @0.69Cum and fine aggregates @0.46Cum with superplastisiser @3lts confirming to IS9103-1999 Reaffirmed-2008 upto 5 mtrs. Upto 5 Mtrs height								
	CD at Aaimatha layout	Cum	2	8.65	0.35	1.60	9.69	C+F+C	
12					**Total**		**9.69**		

3/8/17

AE

AEE

AE

ಸಹಾಯಕ ಕಾರ್ಯನಿರ್ವಾಹಕ ಅಭಿಯಂತರರು
ಬೃಹತ್ ಬೆಂಗಳೂರು ಪಾಲಿಕೆ
ಬೃಹತ್ ಬೆಂಗಳೂರು ಮಹಾನಗರ ಪಾಲಿಕೆ

B.V.H. Consulting Engineers Bangalore

Scanned by CamScanner

Sl. No.	Description	Unit	No.	L	B	D	Qty		
	Measurements recorded on 07/08/2017								
15	Supplying,fitting and placing **TMT bar reinforcement in super-structure** complete as per drawing and technical specifications complete as per specifications. TMT Bars Fe 500								
							1.28		
	CD at Aaimatha layout						1.2819		
15		MT			Total		1.2819		
13	**Furnishing and Placing Reinforced/ Prestressed cement concrete in super-structure as per drawing and Technical Specification complete as per specifications. D. RCC / PSC with OPC cement design mix M30 @ 360kgs,** with 20mm and down size graded granite metal coarse aggregates @0.66cum and fine aggregates @ 0.46cum, with superplastisiser @3lts confirming to IS9103-1999 Reaffirmed-2008, Case - II : Using Batching Plant, Transit Mixer & Concrete Pump MORTH Specification No. 1500,1600 & 1700. Height upto 5 m								
	CD at Lakeview layout	Cum	1	9.40	(3.7+3.6)/2	0.35	12.01		C+F C
	CD at Aaimatha layout	Cum	1	8.65	3.80	0.30	9.86		
13					Total		21.87		7/8/17
	Measurements recorded on 08/08/2017								
24	Reinforced cement concrete **M30 approach slab** including reinforcement @ 50 kg/Cum and formwork complete as per drawing and Technical specification complete as per specifications MORTH Specification No. 1500,1600,1700 & 2704								
	CD at Lakeview layout	LHS	1	6.10	4.00	0.25	6.10		C+F C
		RHS 1	1	5.15	5.30	0.25	6.82		
		RHS 2	1	3.80	2.50	0.25	2.38		
	CD at Aaimatha layout	LHS	1	9.00	3.00	0.25	6.75		
		RHS	1	7.50	1.50	0.25	2.81		
24							24.86		8/8/17

B.V.H. Consulting Engineers Bangalore

Scanned by CamScanner

Measurements recorded on 07/08/2017

Culvert- Slab

Sl No	Bar no	Dia	Side	No of Bars	Cut Length of Bar	Total Length of Bars	Unit Weight	Total Weight	Remarks.
Slab							1.58	675.45	
1	10	16	1	75	5.70	427.50	1.59	679.73	Slab Bar
2	12	10	1	21	7.50	157.50	0.62	97.65	Distribution
3	11	16	1	42	5.70	239.40	1.59 1.58	380.65 378.85	Slab Bar
4	13	10	1	21	7.50	157.50	0.62	97.65	Distribution
5		16	1	11	1.50	16.50	1.59 1.58	26.24 26.07	Chair
Approach Slab-LHS									
4		10	2	48	2.80	268.80	0.62	166.66	Slab Bar
5		10	2	13	9.50	247.00	0.62	153.14	Distribution
Approach Slab-RHS									
4		10	2	48	2.65	254.40	0.62	157.73	Slab Bar
5		10	2	13	9.50	247.00	0.62	153.14	Distribution
							Total	1281.91	Kg
							Total	1.28	MT

AE

EE

ಸಹಾಯಕ ಕಾರ್ಯನಿರ್ವಾಹಕ ಅಭಿಯಂತರರು
ಬೃಹತ್ ಮಳೆನೀರುಗಾಲುವೆ ಕಾಮಗಾರಿ
ಬೃಹತ್ ಬೆಂಗಳೂರು ಮಹಾನಗರ ಪಾಲಿಕೆ

B.V.H. Consulting Engineers
Bangalore

Scanned by CamScanner

Sl.	Description	Unit	No.	L	B	D	Qty		
	Measurements recorded on 10/08/2017								
16	Providing weep holes in Brick masonry I Plain I Reinforced concrete abutment, wing wall I return wall with 100 mm dia AC pipe, extending through the full width of the structure with slope of 1V :20H towards drawing foce. Complete as per drawing and Technical Specifications complete as per specifications MORTH Specification No.2706 & 2200								
	Lakeview layout	LHS	1	12.00		0.30	3.60		
	Lakeview layout	RHS	1	34.00		0.30	10.20		
	CD at Lakeview layout		1	5.00		0.30	1.50		
16							**15.30**		
17	Providing and laying of **Filter media with granular** materials/stone crushed aggregates satisfying the requirements laid down in clause 2500.4.2.2 of MORTH specifications to a thickness of not less than 600 mm with smaller size towards the soil and bigger size towards the wall and provided over the entire surface behind abutment, wing wall and return wall to the full height compacted to a firm condition complete as per drawing and Technical Specification complete as per specifications with all lead and lifts, etc., after breaking of clods complete as per specifications and as per direction of Engineer in-charge.page no 229/28.13								
	CD at Lakeview layout	Cum	2	9.40	0.30	1.00	5.64		
	CD at Aaimatha layout	Cum	1	8.65	0.30	1.00	2.60		
17					**Total**		**8.24**		
18	Collecting, Conveying and disposal of surplus/excavated earth including Stone Boulder / Stone aggregates /Sand/ Kanker / Moorum **to designated dumping site** (15.0 kms) as directed by the engineer-in-charge .								
	(PW,P& IWTD, SR 15-16, P-133, I.No-17.1								
	Qty from item No 2 recorded on 05/07/2017						**5.22**		
	Qty from item No 1 recorded on 05/07/2017						**6.48**		
	Qty from item No 4 recorded on 08/07/2017						**205.38**		
	Qty from item No 6 recorded on 11/07/2017 - 80%						**342.80**		
	Qty from item No 5 recorded on 15/07/2017						**154.50**		
	Qty from item No 6 recorded on 17/07/2017 - 80%						**316.17**		
	Qty from item No 5 recorded on 22/07/2017						**60.00**		
	Qty from item No 6 recorded on 22/07/2017 - 80%						**145.66**		
	Qty from item No 17 recorded on 10/08/2017						**8.24**		
18	Qty as in (item No.1+2+3+5+6-17)=			Cum	**Total**		**1227.97**		

AE

Consulting Engineers

Scanned by CamScanner

Sl.	Description	Unit	No.	L	B	D	Qty		
	Measurements recorded on 14/08/2017								
21	Supplying and fixing M.S. Rectangular poles made out of 2 equal angles of 65x65x6 mm welded together and fixed in CC (1:2:4) WITH 2 NOS 16mm dia M.S. hold fast rods each of length 25 cms. Including cost of all materials cutting, bending scaffolding wherever necessary, nicely finishing the welded joints with all lead lifts and as per the directions of the Engineer-in - charge of the work and including providing 2 coats of approved quality paint over one coat of shop painting (excluding cost of earthwork and concrete)								
	Lakeview layout		2	33.00		3.25	214.50		
	D/s of CD Lakeview layout		2	34.00		3.25	221.00		
	D/s of CD Aaimatha layout		2	10.00		3.25	65.00		
21					Total		500.50		
22	Providing chain link fencing 50mm size of 8 guage properly stretched between existing rectangular poles and fixed with suitable bolts & nuts, the free ends shall be welded to the pole and block pipe at top and bottom as required including cost of all materials, labour, lead and lifts and as per the directions of the Engineer-in-charge of work including two coats of approved quality paint over one coat of shop paint								
	Lakeview layout		2	102.00		2.5	510.00		
	CD at Lakeview layout		1	2.3+3.7		2.5	15.00		
	Lakeview layout		2	102.00		2.5	510.00		
	CD at Aaimatha layout		2	3.00		2.5	15.00		
	D/s of CD		2	29.00		2.5	145.00		
22					Total		1195.00		
23	Providing and fixing M.S. Block pipe of 38mm dia, of heavy guage of 14 including removing the bends, cutting the pipe, and fixing pipe in between / the existing two verticle poles (M.S. rectangular poles) and spot welding the chain link with M.S. block pipe including cost of all materials wastage in cutting, and scaffolding wherever necessary with all lead and lift as directed by the Engineer-in-charge of work etc., complete including two coats of approved quality paint over one coat of shop paint.								
	Lakeview layout		8	102.00			816.00		
	CD at Lakeview layout		4	2.3+3.7			24.00		
	Lakeview layout		8	102.00			816.00		
	CD at Aaimatha layout		8	3.00			24.00		
	D/s of CD		8	29.00			232.00		
23					Total		1912.00		

AE

Scanned by CamScanner